

REMARKS

Claims 88, 89, 93-99, 102-110, 128, 134, and 138 are pending in the application, with claims 90-92, 10, 101, 111-127, 129-133, 135-137 and 139-153 canceled pursuant to the Restriction Requirement mailed January 16, 2003. Applicants appreciate the Examiner's reconsideration of the Restriction Requirement to the extent that claims 88, 89, 93-99, 102-110, 128, 134, and 138 and SEQ ID NOs: 2, 6, and 10 are included in the subject matter examined.

The claim amendments adding the word "isolated" find support in the specification at, for example, paragraph 14, pages 4 to 5; page 10, paragraphs 28 and 29; and elsewhere in the specification. The amendments to claims 88 and 103 adding the phrase "at least one monomer of" finds support in the specification, for example, at page 42, paragraph 103, line 2 of the paragraph, and elsewhere in the specification. The amendment to claim 88 inserting the phrase "[to] form intermolecular oligomers" finds support in the specification at page 3, paragraph 10, line 4 of the paragraph, and elsewhere in the specification. The amendments to claim 88 inserting the words "green fluorescent protein or a fluorescent protein related to a GFP" find support in claim 89 as originally filed, and elsewhere in the specification. The amendment to claim 105 changes the dependency to directly depend from an independent claim rather than from a dependent claim. The amendments deleting reference to subject matter withdrawn pursuant to the restriction requirement find support in the specification and claims as originally filed.

No new matter is added by way of the amendments.

Claims 89, 93, 94, 95 and 98 stand objected to as allegedly reciting non-elected sequences. Claims 88, 89, 93-99, 102-110, 128, 134, and 138 stand rejected under 35 U.S.C. § 101 as allegedly directed to non-statutory subject matter. Claims 88, 89, 93-99, 102-110, 128, 134, and 138 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly including subject matter not reasonably enabled by the specification. Applicants respectfully note that no prior art has been cited against the claims, and respectfully traverse the objections and rejections to the claims.

The Rejections under 35 U.S.C. § 101

Claims 88, 89, 93-99, 102-110, 128, 134, and 138 stand rejected under 35 U.S.C. § 101 as claiming non-statutory subject matter. As amended, claims 88, 93-99, 102-110, 128, 134, and 138 are directed to isolated polynucleotides, subject matter that is within the subject matter of 35 U.S.C. § 101. Accordingly, applicants submit that these rejections are overcome.

The rejections under 35 U.S.C. § 112, first paragraph

Claims 88, 89, 93-99, 102-110, 128, 134, and 138 stand rejected under 35 U.S.C. § 112, first paragraph, on the ground that the specification allegedly does not enable a person skilled in the art to make or use the invention commensurate with the scope of the claims.

As amended, claim 89 is directed to isolated polynucleotides encoding proteins comprising a green fluorescent protein or a protein related to a green fluorescent protein, having a propensity to form intermolecular oligomers that is reduced or inhibited as compared to a monomer of a green fluorescent protein or a protein related to a GFP. Accordingly, the polynucleotides of claim 88 encode polypeptides with disclosed and specific properties (*i.e.*, a green fluorescent protein or related protein, with reduced propensity to form intermolecular oligomers), so that one of ordinary skill in the art is enabled by the specification to make and use the invention commensurate with the scope of the claims. Green fluorescent protein sequences are disclosed in, and enabled by, the specification (see, *e.g.*, SEQ ID NO:2). Claims 93-99, 103-110, 128, 134, and 138 dependent from claim 88 are thus also directed to polynucleotides (or vectors or cells comprising polynucleotides) with disclosed and specific sequence and properties that are likewise enabled by the specification.

Multiple examples of such polynucleotides encoding the claimed tandem fluorescent proteins are disclosed in the specification. For example, page 15, paragraph 40 discloses several non-oligomerizing tandem fluorescent proteins. Various amino acid substitutions providing the tandem fluorescent proteins polypeptides encoded by the claimed isolated polynucleotides are disclosed at page 15,

paragraph 41. Similarly, other examples are disclosed, for example, at page 16, paragraph 46 (discussing green fluorescent proteins and related proteins); at paragraph 48, pages 17-18 (discussing DsRed and related amino acid variant proteins); and elsewhere in the specification.

Applicants note that "A specification may, within the meaning of § 112 ¶ 1, contain a written description of a broadly claimed invention without describing all species that claim encompasses." *Utter v. Hiraga*, 845 F.2d 993, 998, 6 U.S.P.Q.2d 1709, 1714 (Fed. Cir. 1988). In addition, although "[m]ention of representative compounds encompassed by generic claim language clearly is not required by § 112 or any other provision of the statute ... mention of representative compounds may provide an implicit description upon which to base generic claim language." *In re Robins*, 166 U.S.P.Q. 552, 555, 429 F.2d 452, 456-7 (C.C.P.A. 1970). Applicants respectfully submit that the multiple examples of sequences and sequence variants of tandem fluorescent proteins of the claims enable one of ordinary skill in the art to make and use the invention commensurate with the scope of the claims, and that claims 88, 89, 93-99, 102-110, 128, 134, and 138 are enabled by the specification.

Applicants gratefully acknowledge the Examiner's explicit statement that the specification is enabling for "a polynucleotide encoding a non-oligomerizing tandem fluorescent protein, wherein the protein comprises a first monomer ... wherein the sequence of the monomer is defined" and respectfully submit that the present claims are directed to such polynucleotides. Accordingly, applicants believe the rejections of claims 88, 89, 93-99, 102-110, 128, 134, and 138 under 35 U.S.C. § 112, first paragraph, to be overcome.

The objections to claims 89, 93, 94, 95 and 98

Claims 89 93, 94, 95, and 98 were objected to as allegedly including non-elected sequences. With the present amendments, reference to non-elected sequences has been deleted. Accordingly, applicants respectfully submit that this objection is overcome.

CONCLUSION

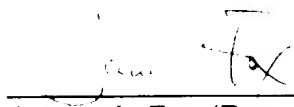
Applicants respectfully submit that all claim rejections and objections are overcome by the above arguments and amendments, and request reconsideration and allowance of claims 88, 89, 93-99, 102-110, 128, 134, and 138. An early indication of their allowance is earnestly requested. The Examiner is invited to contact the undersigned attorney at the telephone number indicated below should he find that there are any further issues outstanding.

Although no fees are believed to be due at this time, please charge any fees, including any fees for extension of time, or credit overpayment to Deposit Account No. **08-1641** referencing Attorney's Docket No. **39754-0831 CP2**.

Respectfully submitted,

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